IN THE SPECIFICATION

Please insert the following paragraph at page 5, line 7:

E1 FIG. 30 illustrates an exemplary procedure for adjusting a sector terminal efferent resistance.

The paragraph beginning at page 57, line 13 is amended as follows:

To start the computations for the sector model (FIG. 24), the assumption is made that the flow (QGOAL in FIG. 24) in the terminal efferent for the sector is the same as the PCMRA measured flow in the primary input flow vessel, ignoring, for this first set of calculations, the other secondary inflows or outflows. A plausible set of terminal resistances are needed to start the calculations and be concocted either from a steady flow model of the vessel system or from a previous similar simulation. After each (pulse) period of calculation , the program adjusts the resistance for each sector terminal efferent by multiplying its current resistance by the ratio of the current calculated terminal flow to the goal (PCMRA) flow for that terminal. An exemplary procedure for adjusting the resistance of a sector terminal efferent is illustrated as steps S1 through S5 in Fig. 30. This procedure would correctly adjust any one terminal flow but, since all the other terminal resistances are adjusted concurrently, errors are introduced and many adjustments are needed in subsequent periods. This process continues for up to a user-specified number of pulse period of calculations period-max in FIG. 24. A check is made at the end of each period to see if the measured sector flow goal has been achieved by the adjustment of the resistance of the terminal efferent. If all seven sector flow goals are achieved within in the period limit, the program proceeds to the next step. If the goals are not met after the maximum number of periods, the program starts over with the current efferent resistances and the original initial conditions of zero flow and venous pressure at all nodes in all vessels.

E2